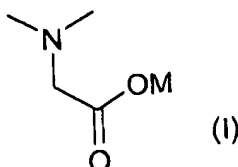


We claim:-

1. A composition for the treatment of metal or plastics surfaces, comprising
- a) at least one polymer as component A, comprising at least one structural unit of the formula (I)



where this structural unit may be part of a polymer main chain or may be bound to a polymer main chain via an anchor group, and
M is hydrogen or a metal cation;

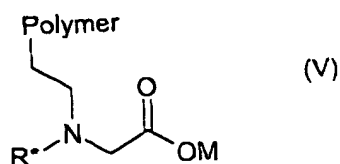
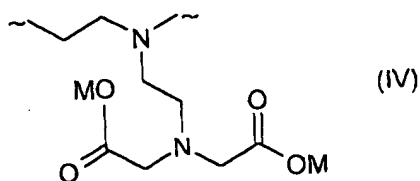
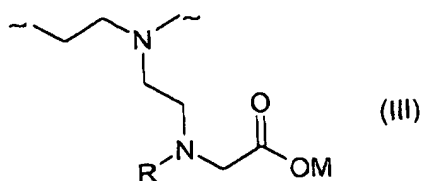
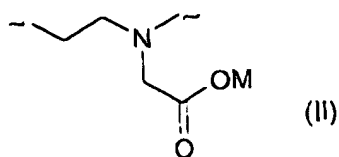
- b) water or another solvent which is suitable for dissolving, dispersing, suspending or emulsifying the polymer (component A), as component B;
- c) if required, surface-active compounds, dispersants, suspending media and/or emulsifiers as component C;
- either
- d) if required, a salt, an acid or a base based on transition metal cations, transition metal oxoanions, fluorometallates or lanthanoids as component D, and/or
- e) at least one acid selected from the group consisting of phosphoric acid, sulfuric acid, sulfonic acid, nitric acid, hydrofluoric acid and hydrochloric acid as component E, or a base selected from the group consisting of alkali metal and alkaline earth metal hydroxides and ammonia solution

and/or

f) at least one metal oxide and/or metal salt as component F.

2. A composition as claimed in claim 1, wherein the weight average molecular weight of the polymer (component A) is greater than 500 g/mol.

3. A composition as claimed in claim 1 or 2, wherein the polymer (component A) contains one or more repeating units of the formulae (II), (III) and/or (IV), and/or one or two terminal groups of the formula (V), and, if required, further units of the formula (VI)





where

R is hydrogen or any desired substituted or unsubstituted organic radical

R* is hydrogen or -CH₂-CO₂M

M is hydrogen or an ammonium or metal cation

Polymer is any desired polymer which is suitable for binding the structural unit defined in formula (V).

4. A composition as claimed in any of claims 1 to 3 for the surface treatment of metals, comprising, in addition to the components A, B and, if required, C, and D and/or E,

g) at least one corrosion inhibitor as component G,

and/or

h) compounds of Ce, Ni, Co, V, Fe, Zn, Zr, Ca, Mn, Mo, W, Cr and/or Bi as component H,

and/or

i) further assistants and additives as component I.

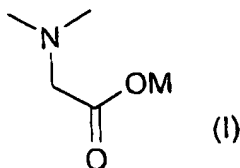
5. A composition as claimed in any of claims 1 to 4 for the deposition of metals or metal alloys on metal surfaces or plastics surfaces, comprising, in addition to the components A, B and, if required, C, and F,

j) if required, at least one acid or one alkali metal salt or alkaline metal earth salt of the corresponding acid as component J

and/or

k) if required, further additives as component K.

6. A process for the surface treatment of metals, wherein the metal surface is brought into contact with the polymer (component A) comprising at least one structural unit of the formula (I)



where this structural unit may be a part of the polymer main chain or may be bound to the polymer main chain via an anchor group, and

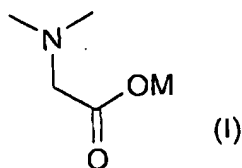
M is hydrogen or an ammonium or metal cation.

7. A process as claimed in claim 6, wherein the metal surface is brought into contact with the composition as claimed in any of claims 1 to 4.

8. A process as claimed in claim 7, comprising the steps:

- a) if required, cleaning of the metal surface for removal of oils, greases and dirt,
- b) if required, washing with water,
- c) if required, pickling in order to remove rust or other oxides, in the presence or absence of the polymer (component A) used according to the invention,
- d) if required, washing with water,
- e) treatment of the metal surface in the presence of the polymer (component A) used according to the invention,
- f) if required, washing with water,
- g) if required, aftertreatment.

9. A process for depositing metals or metal alloys on a metal surface or plastics surface, wherein the metal surface or plastics surface is brought into contact with a polymer (component A), comprising at least one structural unit of the formula (I)



where this structural unit may be a part of the polymer main chain or may be bound to the polymer main chain by an anchor group, and

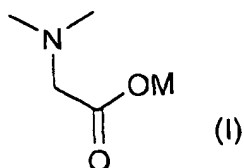
M is hydrogen or an ammonium or metal cation.

10. A process as claimed in claim 9, wherein the plastics surface is brought into contact with a composition as claimed in any of claims 1 to 3 or 5.

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11. A process as claimed in claim 9 or 10, wherein a chemical or electrochemical metal deposition is carried out.

- 10 12. The use of a polymer comprising at least one structural unit of the formula (I)



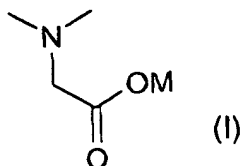
15 where this structural unit may be a part of the polymer main chain or may be bound to a polymer main chain via an anchor group, and

M is hydrogen or an ammonium or metal cation,

as a complexing agent in the surface treatment of metals.

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13. The use of a polymer comprising at least one structural unit of the formula (I)



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where this structural unit may be a part of the polymer main chain or may be bound to a polymer main chain via an anchor group, and

M is hydrogen or an ammonium or metal cation,

- 6 -

as a complexing agent in the deposition of metals or metal alloys on metal surfaces or plastics surfaces.